

5526

Form 504
Ed. June, 1923

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
R. S. Patton, Director

U. S. COAST & GEODETIC SURVEY
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OCT 12 1934
Acc. No.

State: South Carolina

DESCRIPTIVE REPORT
Topographic } Sheet No. 20 5526
Hydrographic }

LOCALITY
St. Helena Sound
South Edisto River

1934

CHIEF OF PARTY
Benjamin H. Huggins

U. S. GOVERNMENT PRINTING OFFICE: 1923

838

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

U. S. COAST & GEODETIC SURVEY
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Acc. No. _____

REG. NO.

5526

HYDROGRAPHIC TITLE SHEET

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. 20

REGISTER NO. 5526

State South Carolina

General locality St. Helena Sound

Locality South Edisto River

Scale 1-10,000 Date of survey June, July, 1934

Vessel Party No. 19

Chief of Party Benjamin H. Rigg

Surveyed by Ensign Edward B. Brown, Jr.

Protracted by A. A. Lockerbie

Soundings penciled by C. J. Harryman

Soundings in ~~fathoms~~ feet

Plane of reference Mean Low Water

Subdivision of wire dragged areas by _____

Inked by R.B. Krum

Verified by _____

Instructions dated October 10, 1934

Remarks: _____

DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SHEET NO. 20

DATE OF INSTRUCTIONS - October 10, 1933.

SURVEY METHODS - The survey methods used were the standard methods for this type work. The soundings were taken with a hand lead line while the survey launch was underway at 4 to 5 knots. The lines were in most cases run by compass courses and were in some cases run on ranges where possible. The positions were by two sextant angles on three signals that were located by triangulation and topography.

The creeks were surveyed by running lines in the best water. These lines were usually run at about low water when it was easy to determine the ebb tide channel. Distances (range finder) and bearings (compass) were taken to dangers and edges of mud flats and sand points. The positions were taken by compass bearings and range finder distances on points identified on the shore line.

DANGERS - A shoal extends out into the South Edisto River from the southeastern bank of the St. Pierre Creek to the middle of the River at lat. $32^{\circ}30'$. This shoal may be seen at low water and at high water may be noticed by tide lines or by a marked shortening of the swells. This part of the river is so protected that the seas never break on this shoal. The shoal may be avoided by running about 200 meters from the southwestern shore of the river.

There is a ridge near the center of the river beginning with a shoal at lat. $32^{\circ}32.2'$, long. $80^{\circ}24'$ and ending at lat. $32^{\circ}31.9'$, long. $80^{\circ}22.9'$. The general controlling depth on the ridge is 11' with 10' near the southeast end. The controlling depth on the shoal at the N.W. end is 2'. This shoal may be seen by small swirls and a slight discoloring of the water at a near low tide. At high tide in calm weather this shoal cannot be identified.

There is a middle ground to the southwestward of point at COW. The center of this middle ground is marked by a growth of marsh grass. On the

north end of the middle ground is a wreck which bares $3\frac{1}{2}'$ at mean low water.

CHANNELS - The controlling depth on the entrance bar is $16'$. After crossing the bar, the channel is deep and wide. The eastern edge of the channel is near the shore of Edisto Island between Bay Point and Big Bay Creek. The western edge is near a point of shoal that extends southeastward from Pine Island. This point is marked at all stages of the tide by a tide line, a marked shortening of the swells on the shoal, and a slight difference in the coloring of the water. At the mouth of Big Bay Creek the channel swings to the western side of the river. In the center of the river ^{at} the mouth of Big Bay Creek to the S.E. shore at the mouth of St. Pierre Creek is a middle ground. In ordinary weather this shoal is marked by a tide line, shortening of the swells on the shoal, and a slight change in coloring of the water. The channel swings near the eastern shore to the northward of St. Pierre Creek. At ALA it is best to swing over to the southwestern shore and follow this shore up at a distance of 150 to 200 meters. The controlling depth in this reach is $11'$. ^{12'} There is a channel in the center of the river in this reach that has a controlling depth of $13'$ that may be followed. In the last mentioned channel there is danger of striking the middle ground on the N.E. side, ^{or} namely the $2'$ shoal on the S.W. side of this channel. The former mentioned channel in this reach is recommended because of the ease in keeping in the channel by keeping at a constant distance off shore.

Fenwick Cut has a controlling depth of $15'$. The northeastern entrance to the cut is marked by a lighted beacon. ^{12' over bar at southwestern entrance.}

^{in S. Edisto River N. of Fenwick Cut}
For ordinary navigation, the controlling depth is $17'$. The narrowest reach for this controlling depth is at long. $80^{\circ} 25.15'$ ^(2 ft) south

The controlling depth in Jefford's Creek is over the flat in the wide reach. at lat. $32^{\circ} 29.7'$, long. $80^{\circ} 23.7'$. The controlling depth over the bar at the Ashepoo River end of Jefford's Creek is $3'$. Care must be taken

to run near the southern shore to avoid the point that projects from the northern shore of the creek.

The controlling depth over the bar entering Fish Creek is 4'. When crossing this bar follow close to the line of breakers or tide rips (as the case may be on the southwestern side of the channel. This bar does not break except at high tide in strong southerly winds as it is protected by outer shoals.

The channel from the South Edisto River to St. Helena Sound has a controlling depth of 13'. This channel lies immediately inshore of a line of shoals and may easily be followed by running parallel with the tide rips and tide lines on these shoals. There are several 12' lumps in the western entrance to this channel.

DISCREPANCIES - On "a" day, position 139 to 140 at lat. $32^{\circ} 30.1'$, long. $80^{\circ} 21.1'$, a sounding of 3' is recorded. This sounding should be removed from the record book because it was taken by mistake on the turn and cannot be accurately plotted. ✓
Sdg. marked rejected in the sounding record

On "c" day positions 20 to 21, a ¹⁸ ~~9~~ sounding falls near an ⁹ ~~18~~ sounding, position 62-63 "a" day. The slope of the bottom is very steep at this point and the 9' sounding only can be shown on the sheet. ✓

On "c" day position 23 to 24, a ¹⁸ ~~26~~ sounding falls near a ⁹ ~~26~~ sounding on 66 to 67a. The slope of the bottom is very steep at this point and the 6' sounding only can be shown on the sheet. ✓

On "c" day position 164 to 165 at lat. $32^{\circ} 31.1'$, long. $80^{\circ} 21.5'$ the time does not check the distance travelled in accordance with preceeding fixes. At position 164 the launch entered water of minimum current near the shore thus changing the speed of the launch over the ground. ✓

TIDES - Three tide stations were established as follows:

Big Bay Creek Mean Low Water on Staff
1.8'

135 ft. reef

-4-

Pine Landing Mean Low Water on Staff
1.9
Seabrook Landing 2.5

The limits of each gauge are clearly indicated on the hydrographic sheet.

*Removed
from sheet
in 1910*

CURRENTS - Two current stations were established as follows:

South Edisto River lat. 32° 29.1'
long. 80° 20.8'

Ashepoo River lat. 32° 30.4'
long. 80° 24.6'

STATISTICS -

Vol. No.	Miles	No. of Soundings	No. of Positions
1	37.2	1251	248
2	44.8	1343	288
3	43.5	1332	278
4	39.0	1251	250
5	40.2	1195	273
6	45.9	1403	275
7	42.2	1232	272
8	43.7	1411	287
9	32.8	1071	228
10	<u>21.6</u>	<u>707</u>	<u>178</u>
	390.8	12196	2577

Respectfully submitted by,

E. B. Brown
Ensign Edward B. Brown, Jr.

Forwarded by,

Benjamin H. Rigg
Lt. Benjamin H. Rigg,
Chief of Party

To: Mr. Bacon
From L. S. S.

Survey No. H 5526

GEOGRAPHIC NAMES
SOUTH CAROLINA

Chart No. 1239 & 1240

Date. Oct. 25, 1934

Diagram No. 1239-2 & 1240-2

Names underlined in red approved Oct 25, 1934
J.B.

* Approved by the Division of Geographic Names, Department of Interior.

Ø Not Approved by the Division of Geographic Names, Department of Interior.

R, Referred to the Division of Geographic Names, Department of Interior.

Status	Name on Survey	Name on Chart	New Names in local use	Names assigned by Field	Location
	<u>Bay Pt.</u> ✓	<u>Bay Pt.</u> ✓			32°28.7' 80°20.0'
		" U.S.G.S.			
	<u>Big Bay Creek</u> ✓	Same			32°29.7' 80°20.4'
		" U.S.G.S.			
	<u>Pine Island</u> ✓	" U.S.G.S.			
	<u>Otter Islands</u> ✓	" U.S.G.S.			
	<u>Jefford Cr.</u>	Jeffords Cr. (U.S.G.S.)	Held for investigation		
		"			
	<u>Fish Creek</u> ✓	<u>Fish Cr.</u>			
		" U.S.G.S.			
	<u>St. Pierre Cr.</u> ✓	Same			
		" U.S.G.S.			
	<u>South Edisto River</u>	" U.S.G.S.			
	<u>Ashpoo River</u> ✓	" U.S.G.S.			
	<u>Fenwick Island</u> R	" U.S.G.S.			
	<u>Seabrook Island</u> R				
	<u>Fenwick Cut</u> a.k. <u>mill dikes</u>				32° 32.15' 80° 24.7'
	Because Fenwick cut has divided the former Fenwick Island into two parts it is proposed to name the portion N. of the cut Fenwick I. & the south separated				

Mr. Ellis

LAC

November 23, 1934.

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in
10 volumes of sounding records for

HYDROGRAPHIC SHEET 5526

Locality South Edisto River, S. C.

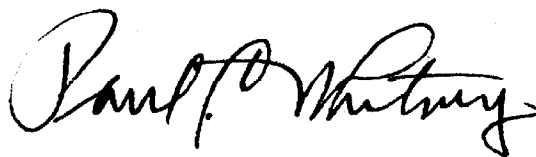
Chief of Party: B. H. Rigg in 1934
Plane of reference is mean low water, reading
1.7 ft. on tide staff at Big Bay Creek
6.8 ft. below B.M. 1

3.0 ft. on tide staff at Pine Landing
8.0 ft. below B.M. 1

2.6 ft. on tide staff at Seabrook Landing
16.5 ft. below B.M. 1

Height of mean high water above plane of reference is 6.1 ft. at
Big Bay Creek; 6.3 ft. at Pine Landing, and 6.2 ft. at Seabrook
Landing.

Condition of records satisfactory except as noted below:



Chief, Division of Tides and Currents.

Verification Report H. 5526

Records:

The records are neat and legible. They conform to the requirements of the Hydrographic Manual.

Protracting:

The field protracting was well done, but the location of the sounding lines between positions, in Fish Creek and its tributaries, was carelessly done. Over 90 soundings were revised in this area to conform to the boat sheet. ✓

Drafting:

The field drafting was well done. ✓

Crossings:

The crossings are in good agreement. ✓

Comparison with Other Data:

The smooth sheet was carefully compared with the boat sheet and topographic sheets.

6085 and 6106, and compilation sheets 5156 and 5169. The radial plot stations and the shoreline were verified by comparison with the compilation sheets 5156 and 5169. The spotted stations were verified by comparison with the boat sheet. The air photo control sheets T-6085 and 6106 were used to help define the extensive shoal at lat. $32^{\circ}29'$, long. $80^{\circ}22'$ to $80^{\circ}23'$.

Curves:

The usual depth curves could be drawn. ✓

Junctions:

This sheet joins H-5506 (1934) on the north, H-5559 (1934) on the north west and H-5565 (1934) on the south west. This sheet also joins one or more other contemporary surveys which have not yet been received in this office. ✓ H-5565 has not yet been verified but junctions have been made with H-5506 and H-5559.

They are in good agreement.

Respectfully submitted,

R. B. Funn

Dec. 29, 1934

Verification Report (continued) # 5526

Remarks:

It has not been possible to identify upon what feature of topography the following stations are located:

HOE	32-32.2	80-25.3
Fly	32-32.2	80-25.7
Boy	32-32.1	80-26.1
Cat	32-31.8	80-26.2

all 4 signals are in shallow water, close to shore and are probably not permanent features
Rfb

The boat sheet, aerial compilation sheet, and its report, the topographic sheet T-6106 and its report and the "Description of Topographic Stations" file have all been investigated without success.

RJK.

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. 5526.

The following statistics will be submitted with the
cartographer's report on the sheet:

Number of positions on sheet	2577..
Number of positions checked	113.....
Number of positions revised	4.....
Number of soundings recorded	12196 12196
Number of soundings revised	112... 112 ...
Number of signals erroneously plotted or transferred	none...

Date: Jan. 11, 1935

Verification by R. B. Krum Time: 109 hours

Review by R. J. Christman Jan 1935 Time: 17 1/4 "
+ R. L. Johnston

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5526 (1934).

South Edisto River, St. Helena Sound, South Carolina.

Instructions dated Oct. 10, 1933 (B. H. Rigg).

Surveyed - June-July, 1934.

Hand Lead Soundings - 3-Point Fixes on Shore Signals

Compass bearings and Range Finder Distances.

Chief of Party - B. H. Rigg.

Surveyed by - E. B. Brown.

Protracted and soundings penciled by - A. A. Lockerbie & C. J. Harryman.

Verified and inked by - R. B. Krum.

1. Condition of Records.

The sounding records are neat and legible and conform to the requirements of the Hydrographic Manual.

There is a discrepancy in the position of the tide gage in Big Bay Creek. The smooth sheet shows it to be in deep water in the center of the creek whereas a sketch filed with the Tidal Division shows it close to the bank about 450 meters southeast. *Position near bank is correct according to letter from field party. June 11, 1935, R.J.C.*

This matter has been referred to the field party.

2. Compliance With Instructions for the Project.

The plan and extent of development conform to the instructions for the project except that an attempt should have been made to define more accurately the low water limits of the extensive shoal area in the upper part of the South Edisto River. With a 6 foot range of tide it could have very easily been accomplished by running several lines across the shoal area at high water.

3. Sounding Line Crossings.

The crossings are satisfactory. The agreement in depth is good except in a few places where the lines cross in areas of very steep slopes.

4. Depth Curves.

Within the limits of the survey the usual depth curves may be satisfactorily drawn including portions of the low water line.

5. Junctions With Contemporary Surveys.

Junctions with H. 5506 (1934) to the north in South Edisto River and with H. 5559 (1934) to the west in Ashepoo River, are satisfactory.

Junction with H. 5565 (1934) to the southwest in St. Helena Sound will be considered in the review of that survey.

In Ashepoo River, St. Pierre Creek and Big Bay Creek the surveys adjoining the present survey have not yet been received.

6. Comparison With Prior Surveys.

a. H. 620 (1856-7), H. 649 (1853-7), H. 1206 (1873), H. 1349a (1875-6).

An examination of these surveys shows that the area covered by the present survey (H. 5526 of 1934) is very changeable. The only fairly stable area is the section of the Ashepoo River westward of long. $80^{\circ}25'$ where the channel depths are in fair agreement.

The following are some notable changes in the South Edisto River;

1. The small spot bare at low water on the middle ground north of the present Fenwick Cut has enlarged to about 1 mile in length with a small area bare at all stages of the tide.
2. No indication of the 2 foot shoal (lat. $32^{\circ}32'.2$, long. $80^{\circ}24'$) is shown on H. 1349a (1875-6).
3. Channel depths opposite St. Pierre Creek have increased 2 to 7 feet and the controlling depth in the vicinity had increased from $15\frac{1}{2}$ feet to 18 feet at the time of the present survey.
4. The middle ground in the South Edisto River between St. Pierre Creek and Big Bay Creek now shows only a few spots bare at MLW whereas H. 620 (1856-7) shows a considerable area bare at low water with material differences in detail in the channels.

b. H. 3667 (1914), H. 4152 (1920), H. 4170 (1920-21).

These surveys cover the approach to the South Edisto River and to St. Helena Sound. The portion of the present survey covered by them is very changeable and no detailed comparison is deemed necessary however the following features should be mentioned:

1. A charted bare shoal about 360 meters in length in lat. $32^{\circ}27'.2$, long. $80^{\circ}22'.0$ originates with H. 4170 (1920-1). It falls in depths of from 4 to 12 feet on the present survey, which does not note any breakers. Three sounding lines pass over the old position of the shoal which is considered sufficient evidence to disprove the present existence of the bare shoal. The delineation shown on the present survey should be accepted at this point.
2. Another charted bare shoaling in approximate lat. $32^{\circ}26'.7$, long. $80^{\circ}22'.0$, also originates with H. 4170 (1920-1). This shoal, which is over a mile long, was located from notes in the records of adjacent sounding lines. It was noted that the swell was too heavy to approach the shoal very closely and most of the notes in the record refer only to breakers. It is doubtful if the entire area shown on H. 4170 (1920-1) was actually bare. Only the northwestern end of this shoal-

ing falls within the limits of the present survey, which obtained several zero soundings but did not note breakers, however there was $5\frac{1}{2}$ feet of tide at the time these lines were run. As there is no recent survey covering the southeasterly portion of this shoaling, the charted delineation from H. 4170 (1920-1) should be retained and the northwestern end charted from the present survey. The breakers noted on the chart should be retained.

3. Along the southern limits of the present survey there appear to have been some extensive changes and in some areas the curves from the present survey will not join those from H. 4152 (1920). The area in the vicinity of lat. $32^{\circ}28'$, between long. $80^{\circ}19'$ and long. $80^{\circ}20'$, shows the most radical differences. It is probable that the entire area within the limits of H. 4152 (1920) is subject to some change.

7. Comparison With Chart 436 and Chart 1240.

Within the area of the present survey the chart is based on surveys discussed in the foregoing paragraphs and contains no additional information that needs consideration in this review.

8. Field Plotting.

The protracting of positions was well done.

Penciling of soundings was satisfactory except in Fish Creek and its tributaries. Some 90 soundings were revised to make the channel lines conform to the representation on the boatsheet.

In order to preserve the points spotted on the ground from the air-photo compilation, they have been circled in brown on the smooth sheet in the office.

9. Additional Field Work.

This survey is complete and no additional field work is required within the area covered however attention is called to the fact that the present survey on its southern limits is not in close agreement with H. 4152 (1920) at the junction. See par. 6b (3).

10. Superseding Old Surveys.

Within the area covered, the present survey supersedes the following surveys for charting purposes:

H. 620	(1856-7)	In part.
H. 649	(1853-7)	" "
H. 1206	(1873)	" "
H. 1349a	(1875-6)	" "
H. 3667	(1914)	" "
H. 4152	(1920)	" "
H. 4170	(1920-1)	" "

11. Reviewed by - R. J. Christman and R. L. Johnston - January 1935.

Inspected by - A. L. Shalowitz.

Examined and approved:

C. K. Green, *C. K. Green*
Chief, Section of Field Records.

J. S. Borden
Chief, Section of Field Work.

L. O. Robert
Chief, Division of Charts.

G. Hude
Chief, Division of H. & T.

Applied to Chart 838 December 1935 R. S. Bagwell (for W. A. B.)
Applied to Chart 793 June 15, 1935 H. E. MacEwen
" " " 1239 Apr. 1937 J. M. G.